



Joe Derocha, Supervisor
Humboldt Township
244 County Road FAF
Champion, Michigan 49814

February 14, 2012

Dear Mr.Derocha:

SUBJECT: Analysis Results for Water Supply at Humboldt Township Hall, 244 County Road FAF, Marquette County, Michigan

The United States Environmental Protection Agency (EPA) collected a sample from the Humboldt Township Hall Type III public water supply on October 31, 2011. Attached is a tabulation of the sample analysis results. The EPA sampled the water supply to assess if past activities at the nearby Humboldt Mine and Mill site had affected groundwater and individual water supplies in the area.

The concentrations of inorganic substances and metals detected in the water supply samples were below established federal and state drinking water standards and health concern levels, and were similar to groundwater quality generally found in Central Marquette County. While it is entirely normal within the region, it is noteworthy that both iron and manganese were detected at concentrations higher than secondary drinking water standards. The secondary standard for iron is 300 micrograms per liter (ug/l) and the secondary standard for manganese is 50 ug/l. Secondary standards are not health-risk standards. They are aesthetic water quality standards.

The sample from the township water supply contained iron at 408 ug/l and manganese at 124 ug/l. Water containing iron or manganese exceeding secondary standards may cause staining of fixtures and laundry, and may have objectionable turbidity, color, and odor.

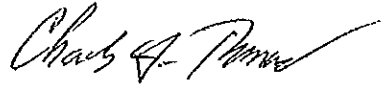
Even though there is no indication the township water supply has been impacted, the EPA and the Michigan Department of Environmental Quality (DEQ) believe a second sample set is needed. The EPA will contact you regarding a second access agreement and sample collection date. Analysis of the follow-up samples will also be performed for some inorganic substances not previously researched and for some organic chemicals at a lower laboratory detection limit.

The EPA and the DEQ appreciate your cooperation in these investigations. If you have questions about the sampling efforts, please contact Nuria Mufiz at (312-886-4439). If you have questions about the analysis results, please contact Chuck Thomas, DEQ by phone at 906-346-8534 or by email at thomasc3@michigan.gov.

Sincerely,



Nuria Muñiz
U.S. Environmental Protection Agency
Superfund Division
Region 5, Chicago IL.



Charles H. Thomas, P.G.
Michigan Dept. of Environmental Quality
Resource Management Division
Upper Peninsula District Office

Enclosure

cc: Ms. Dana DeBruyn, DEQ
Mr. Steve Harrington, DEQ
Mr. Patrick L. Jacuzzo, Marquette County Health Dept.
Mr. Don Deblasio, EPA
Mr. Mark Johnson, ATSDR

Analysis Results - Humboldt Township Type III Water Supply

Analyte	MCL (ug/L)	HMDW-011
Matrix		Groundwater
Cyanide (ug/L)		
Cyanide	200	10 U
Metals (ug/L)		
Aluminum		200 U
Antimony	6	60 U
Arsenic	10	4.7 J
Barium	2000	9.5 J
Beryllium	4	5 U
Cadmium	5	5 U
Calcium		19400
Chromium	100	10 U
Cobalt		50 U
Copper	1300	24.8 J
Iron		408
Lead	15	16.6
Magnesium		7400
Manganese		124
Mercury	2	0.2 U
Nickel		40 U
Potassium		5000 U
Selenium	50	35 U
Silver		10 U
Sodium		5000 U
Thallium	2	25 U
Vanadium		50 U
Zinc		60 U
PCBs (ug/L)		
	2	
Aroclor-1016		1 U
Aroclor-1221		1 U
Aroclor-1232		1 U
Aroclor-1242		1 U
Aroclor-1248		1 U
Aroclor-1254		1 U
Aroclor-1260		1 U
Aroclor-1262		1 U
Aroclor-1268		1 U
SVOCs (ug/L)		
1,1'-Biphenyl		5 U
1,2,4,5-Tetrachlorobenzene		5 U
2,2'-Oxybis(1-chloropropane)		5 U
2,3,4,6-Tetrachlorophenol		5 U
2,4,5-Trichlorophenol		5 U
2,4,6-Trichlorophenol		5 U
2,4-Dichlorophenol		5 U
2,4-Dimethylphenol		5 U
2,4-Dinitrophenol		10 U
2,4-Dinitrotoluene		5 U
2,6-Dinitrotoluene		5 U
2-Chloronaphthalene		5 U
2-Chlorophenol		5 U

SVOCs (ug/L) Continued		
2-Methylnaphthalene		5 U
2-Methylphenol		5 U
2-Nitroaniline	.	10 U
2-Nitrophenol		5 U
3,3'-Dichlorobenzidine		5 U
3-Nitroaniline		10 U
4,6-Dinitro-2-methylphenol		10 U
4-Bromophenyl-phenylether		5 U
4-Chloro-3-methylphenol		5 U
4-Chloroaniline		5 U
4-Chlorophenyl-phenylether		5 U
4-Methylphenol		5 U
4-Nitroaniline		10 U
4-Nitrophenol		10 U
Acenaphthene		5 U
Acenaphthylene		5 U
Acetophenone		5 U
Anthracene		5 U
Atrazine	3	5 U
Benzaldehyde		5 U
Benzo(a)anthracene		5 U
Benzo(a)pyrene	0.2	5 U
Benzo(b)fluoranthene		5 U
Benzo(g,h,i)perylene		5 U
Benzo(k)fluoranthene		5 U
Bis(2-chloroethoxy)methane		5 U
Bis(2-chloroethyl)ether		5 U
Bis(2-ethylhexyl)phthalate	6	0.21 J
Butylbenzylphthalate		5 U
Caprolactam		5 U
Carbazole		5 U
Chrysene		5 U
Dibenzo(a,h)anthracene		5 U
Dibenzofuran		5 U
Diethylphthalate		5 U
Dimethylphthalate		5 U
Di-n-butylphthalate		5 U
Di-n-octylphthalate		5 U
Fluoranthene		5 U
Fluorene		5 U
Hexachlorobenzene	1	5 U
Hexachlorobutadiene		5 U
Hexachlorocyclopentadiene	50	5 U
Hexachloroethane		5 U
Indeno(1,2,3-cd)pyrene		5 U
Isophorone		5 U
Naphthalene		5 U
Nitrobenzene		5 U
N-Nitroso-di-n-propylamine		5 U
N-Nitrosodiphenylamine		5 U
Pentachlorophenol	1	10 R
Phenanthrene		5 U
Phenol		5 U
Pyrene		5 U

VOCs (ug/L)

1,1,1-Trichloroethane	200	5 U
1,1,2,2-Tetrachloroethane		5 U
1,1,2-Trichloro-1,2,2-trifluoroethane		5 U
1,1,2-Trichloroethane	5	5 U
1,1-Dichloroethane		5 U
1,1-Dichloroethene	7	5 U
1,2,3-Trichlorobenzene		5 U
1,2,4-Trichlorobenzene	70	5 U
1,2-Dibromo-3-chloropropane		5 U
1,2-Dibromoethane		5 U
1,2-Dichlorobenzene	600	5 U
1,2-Dichloroethane	5	5 U
1,2-Dichloropropane	5	5 U
1,3-Dichlorobenzene		5 U
1,4-Dichlorobenzene	75	5 U
1,4-Dioxane		100 R
2-Butanone		10 U
2-Hexanone		10 U
4-Methyl-2-Pentanone		10 U
Acetone		20 U
Benzene	5	5 U
Bromochloromethane		5 U
Bromodichloromethane		5 U
Bromoform		5 U
Bromomethane		5 U
Carbon disulfide		5 U
Carbon tetrachloride	5	5 U
Chlorobenzene	100	5 U
Chloroethane		5 U
Chloroform		5 U
Chloromethane		5 U
cis-1,2-Dichloroethene	70	5 U
cis-1,3-Dichloropropene		5 U
Cyclohexane		5 U
Dibromochloromethane		5 U
Dichlorodifluoromethane		5 U
Ethylbenzene	700	5 U
Isopropylbenzene		5 U
m,p-Xylene		5 U
Methyl acetate		5 U
Methyl tert-butyl ether		5 U
Methylcyclohexane		5 U
Methylene chloride		10 U
o-Xylene	10000	5 U
Styrene	100	5 U
Tetrachloroethene	5	5 U
Toluene	1000	5 U
trans-1,2-Dichloroethene	100	5 U
trans-1,3-Dichloropropene		5 U
Trichloroethene	5	5 U
Trichlorofluoromethane		5 U
Vinyl chloride	2	5 U

Symbol Key

MCL means maximum contaminant level

ug/l means micrograms per liter and all analysis results as reported as ug/l

SVOC means semi-volatile organic chemical

VOC means volatile organic chemical

U after a number means not detected, but the result reported is the lab detection limit

R after a number means the data may not be valid

J after a number means the substance was positively identified and the numerical value is an approximate concentration of the substance in the sample